

BUILDING ENGINEERING REPORT

Building Name: Federal Building - 517 Gold Avenue SW
Building No.: NM0024ZZ
Location: Albuquerque, New Mexico

Number: 489.4 - Seismic Protection
Title: Exterior Facade Replacement



Exterior Photos

BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW
 Building No.: NM0024ZZ
 Location: Albuquerque, New Mexico

Number: 489.2B – Seismic Protection

Title: Exterior Facade Replacement

DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
Office Trailer	16	MO	\$165	\$2,640
Temporary Utilities	16	MO	\$600	\$9,600
Project Manager	64	WK	\$1,620	\$103,680
Superintendent	64	WK	\$1,380	\$88,320
Scaffolding	16	MO	\$8,160	\$130,560
Testing	1	LS	\$25,000	\$25,000
Barrier	1	LS	\$15,000	\$15,000
Crane	16	MO	\$8,000	\$128,000
Permit/Bond/Insurance	1	LS	\$156,000	\$156,000
Clean – Up	1	LS	\$10,000	\$10,000
Demo Sidewalk	70 (58.5)	SY (M2)	\$6.25	\$438
Demo Curb and Gutter	100 (30.5)	LF (M)	\$4.28	\$428
Demo Pavement	115 (96.2)	SY (M2)	\$5.90	\$679
Clean and Roughen Wall	1107 (102.8)	SF (SM)	\$5.20	\$5,756
Hall	215 (164.4)	CY (M3)	\$13.40	\$2,881
Remove Brick Wall	42725 (3,969.3)	SF (SM)	\$2.50	\$106,813
Remove Structural Clay Tile	25600 (2,378.3)	SF (SM)	\$2.90	\$74,240
Remove Plaster Finish	46500 (4,320.0)	SF (SM)	\$0.70	\$32,550
Remove Metal Panels	7170 (666.1)	SF (SM)	\$0.60	\$4,302
Remove Window Frames	448	EA	\$23	\$10,304

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DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
Remove Stucco	2100 (195.1)	SF (SM)	\$0.50	\$1,050
Remove Granite Panel	3500 (325.2)	SF (SM)	\$4	\$14,000
Remove Ribbon Window – 1st Floor	38	EA	\$16	\$608
Excavation	1185 (906.0)	CY (M3)	\$7.38	\$8,745
Shoring	4640 (431.1)	SF (SM)	\$7.95	\$36,888
Structural Fill	178 (136.1)	CY (M3)	\$13.55	\$2,412
Compaction	178 (136.1)	CY (M3)	\$4.83	\$860
Backfill	859 (656.8)	CY (M3)	\$2.15	\$1,847
Compaction	859 (656.8)	CY (M3)	\$3.25	\$2,792
Sidewalk	630 (58.5)	SF (SM)	\$3.85	\$2,426
Curb and Gutter	100 (30.5)	LF (M)	\$9.70	\$970
Pavement	1035 (865.4)	SY (M2)	\$23.90	\$24,737
Remove Exterior Doors	8	PR	\$30	\$240
Remove S.S. Column Covers	900 (83.6)	SF (SM)	\$2	\$1,800
Batt Insulation – 3"	38400 (3,567.5)	SF (SM)	\$0.45	\$17,280
Sealant	1	LS	\$10,000	\$10,000
Metal Flashing	1600 (148.6)	SF (SM)	\$3.85	\$6,160

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DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
Aluminum Window Frame – 4' x 5'	1120 (104.1)	SF (SM)	\$11	\$12,320
Insulated/Tinted Glazing	1120 (104.1)	SF (SM)	\$14.20	\$15,904
Aluminum Exterior Door	400 (37.2)	SF (SM)	\$21	\$8,400
Aluminum Curtainwall	63900 (5,936.5)	SF (SM)	\$40	\$2,556,000
Gypsum Board – 5/8" Type X	32000 (2,972.9)	SF (SM)	\$0.87	\$27,840
Metal Studs	32000 (2,972.9)	SF (SM)	\$0.73	\$23,360
Painting – Interior Walls	6400 (594.6)	SF (SM)	\$0.20	\$1,280
VCT – 12 x 12	6400 (594.6)	SF (SM)	\$3.40	\$21,760
Vinyl Base	6400 (594.6)	SF (SM)	\$1.40	\$8,960
Extend Lay-In Ceiling	400 (37.2)	SF (SM)	\$2.50	\$1,000
Seal Exterior Wall	8200 (761.8)	SF (SM)	\$3	\$24,600
Subtotal				\$3,741,427
Mark-Up – 15% Contingency				\$561,214
Mark-Up – 18% Overhead and Profit				\$673,457
N.M. Gross Receipts Tax at 5.8125%				\$289,236
Total E.C.C.				\$5,265,334
Total E.C.C. (rounded)				\$5,265,000

BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW
Building No: NM0024ZZ
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years

Number: 489.3

Title: Upgrade Main Seismic Force Resisting System.

Cost: FY 94: \$3,181,000 FY 98: \$4,334,000

DESCRIPTION:

The buildings lateral force resisting system currently is limited to the elevator and stairway concrete shafts. Analysis of the seismic resisting systems has revealed that in a major earthquake, the existing shear walls would be overstressed by two hundred percent. In order to provide the building structure with code minimum lateral resistance, perimeter concrete shear walls will be required. The work involved consists of demolition of large portions of the exterior facade to construct the perimeter concrete shear walls. Construction of the concrete shear walls on all four sides of the building structure. The exterior facade in the areas of the new shear walls will be replaced. The replaced facade will not upgrade the architectural appearance of the building.

JUSTIFICATION:

The building's current lateral load resisting system is grossly inadequate. The current resistive elements do not meet UBC minimum requirements. Current seismic resisting system poses a life safety risk to the public and the building occupants.

For details see Seismic Analysis in Appendix C of the technical backup.
For details see Strength Evaluation and Structural Analysis in Appendix D of the technical backup.

ASSOCIATED WORK ITEMS:

None.

BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW
 Building No.: NM0024ZZ
 Location: Albuquerque, New Mexico
 Number: 489.3 – Seismic

Title: Upgrade Main Force Resisting Systems

DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
GENERAL REQUIREMENTS				
Office Trailer	16	MO	\$206	\$3,296
Temporary Utilities	16	MO	\$750	\$12,000
Project Manager	32	WK	\$2,025	\$64,800
Superintendent	64	WK	\$1,725	\$110,400
Scaffolding	16	MO	\$10,200	\$163,200
Testing	1	LS	\$50,000	\$50,000
Barriers	1	LS	\$30,000	\$30,000
Crane	16	MO	\$10,000	\$160,000
Permit/Bond/Insurance	1	LS	\$84,000	\$84,000
Cleanup	1	LS	\$20,000	\$20,000
SITEWORK				
Demo Sidewalk	140 (117.1)	SY (M2)	\$6.25	\$875
Demo Curb and Gutter	200 (61.0)	LF (M)	\$4.28	\$856
Demo Pavement	230 (192.3)	SY (M2)	\$5.90	\$1,357
Clean and Roughen Wall	2214 (205.7)	SF (SM)	\$5.20	\$11,513
Haul	430 (328.8)	CY (M3)	\$13.40	\$5,762
Remove Brick Wall	10680 (992.2)	SF (SM)	\$2.50	\$26,700
Remove Structural Clay Tile	6720 (624.3)	SF (SM)	\$2.90	\$19,488
Remove Plaster Finish	8520 (791.5)	SF (SM)	\$0.70	\$5,964

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DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
Remove Metal Panels	1792 (166.5)	SF (SM)	\$0.60	\$1,075
Remove Window Frames	112	EA	\$23	\$2,576
Remove Stucco	4200 (390.2)	SF (SM)	\$0.50	\$2,100
Remove Granite Panel	610 (56.7)	SF (SM)	\$4	\$2,440
Remove Ribbon Window – 1st Floor	4	EA	\$16	\$64
Excavation	2370 (1,812.0)	CY (M3)	\$7.38	\$17,491
Shoring	9280 (862.1)	SF (SM)	\$7.95	\$73,776
Structural Fill	356 (272.2)	CY (M3)	\$13.55	\$4,824
Compaction	356 (272.2)	CY (M3)	\$4.83	\$1,719
Backfill	1718 (1,313.5)	CY (M3)	\$2.15	\$3,694
Compaction	1718 (1,313.5)	CY (M3)	\$3.25	\$5,584
Sidewalk	1260 (117.1)	SF (SM)	\$3.85	\$4,851

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ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
Curb and Gutter	200 (61.0)	LF (M)	\$9.70	\$1,940
Pavement	2070 (1,730.8)	SY (M2)	\$23.90	\$49,473
CONCRETE				
Drill and Dowell to Existing Building	2000	EA	\$25	\$50,000
Bonding Agent	70 (271.3)	G (L)	\$50	\$3,500
Foundations	500 (382.3)	CY (M3)	\$350	\$175,000
Foundations Framing	2000 (185.8)	SF (SM)	\$8	\$16,000
Shear Wall Concrete	1020 (779.8)	CY (M3)	\$120	\$122,400
Shear Wall Reinf.	150 (136,077.6)	T (Kg)	\$1,000	\$150,000
Shear Wall Form	19800 (1,839.5)	SF (SM)	\$12	\$237,600
Form Liner	19800 (1,839.5)	SF (SM)	\$4	\$79,200
Roughen Existing Concrete	5000 (464.5)	SF (SM)	\$5	\$25,000
METALS				
Anchor Existing Masonry Walls	4800 (1,463.0)	LF (M)	\$50	\$240,000
THERMAL AND MOISTURE PROTECTION				
Batt Insulation – 3"	13204 (4,024.6)	LF (M)	\$0.45	\$5,942
Sealant	1	LS	\$9,000	\$9,000

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DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
DOORS AND WINDOWS				
Aluminum Window Frame – 4' x 4'	2042 (189.7)	SF (SM)	\$11	\$22,462
Insulated/Tinted Glazing	2292 (212.9)	SF (SM)	\$14.20	\$32,546
FINISHES				
Gypsum Board 5/8" Type X	13204 (1,226.7)	SF (SM)	\$0.87	\$11,487
Metal Studs	13204 (1,226.7)	SF (SM)	\$0.73	\$9,639
Exterior Sheathing	13204 (1,226.7)	SF (SM)	\$0.90	\$11,884
Painting – Interior Walls	13204 (1,226.7)	SF (SM)	\$0.20	\$2,641
VCT – 12 x 12	800 (74.3)	SF (SM)	\$3.40	\$2,720
Vinyl Base	800 (243.8)	LF (M)	\$1.40	\$1,120
Extend Lay-In Ceiling	800 (74.3)	SF (SM)	\$2.50	\$2,000
Seal Exterior Wall	16400 (1,523.6)	SF (SM)	\$3	\$49,200
FURNISHINGS				
Blinds	1792 (166.5)	SF (SM)	\$2.66	\$4,767
MECHANICAL				
Remove and Replace Existing	1600 (487.7)	LF (M)	\$30	\$48,000

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DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
ELECTRICAL				
Remove and Replace Existing	1600 (487.7)	LF (M)	\$4	\$6,400
Subtotal				\$2,260,325
Mark-Up – 15% Contingency				\$339,049
Mark-Up – 18% Overhead and Profit				\$406,858
N.M. Gross Receipts Tax at 5.8125%				\$174,737
Total E.C.C.				\$3,180,969
Total E.C.C. (rounded)				\$3,181,000